

## CVS-09 Randomised controlled trial of low salt diet in the treatment of hypertension

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**Background:** Non-pharmacological treatment is the preferred initial step in the management of mild hypertension. We compared its efficacy with drug treatment.

**Methods:** 93 patients (M:F, 45:48; age  $44 \pm 11$  yrs) with untreated mild essential hypertension were recruited. After a placebo run-in phase, 73 eligible patients were randomised to drug treatment (with hydrochlorothiazide 25 mg daily [n=19] or metoprolol 100 mg daily [n=14]) or non-pharmacological treatment (lifestyle modification including a low-fat, low-salt, high fibre diet, weight control, smoking cessation, moderating alcohol intake and regular exercise) for 6 months. Additional drugs were allowed after 12 weeks if the blood pressure was not controlled. Left ventricular mass index (LVMI) was determined by echocardiography.

**Results:** In the non-pharmacological group, there was a significant decrease in sodium intake ( $56 \pm 14$  mmol/day) and body fat ( $1.7 \pm 0.5\%$ ), but the decrease in body mass ( $1.4 \pm 0.4$  Kg) was small.

There was a significant decrease in ambulatory systolic and diastolic blood pressure in the drug treatment ( $16 \pm 2$  mmHg and  $10 \pm 2$  mmHg) and diet group ( $10 \pm 2$  mmHg and  $6 \pm 1$  mmHg). Change in sodium excretion correlated with diastolic blood pressure ( $r=0.44$ ,  $p=0.02$ ) rather than systolic blood pressure ( $r=0.35$ ,  $p=0.08$ ).

**Conclusion:** Non-pharmacological treatment reduces blood pressure slightly, but to a lesser extent than antihypertensive drugs. It can therefore be used in patients with very mild hypertension. In patients with more severe hypertension, non-pharmacological treatment should be implemented in conjunction with antihypertensive medications.

	N	Diastolic pressure		Systolic pressure		LVMI	
		baseline	final	baseline	final	baseline	final
non-pharmacological	38	$95 \pm 1$	$89 \pm 1$	$142 \pm 2$	$135 \pm 3$	$128 \pm 5$	$119 \pm 4$
pharmacological	35	$96 \pm 1$	$83 \pm 2^*$	$142 \pm 2$	$122 \pm 3^*$	$130 \pm 6$	$123 \pm 5$

\*  $P < 0.05$

## CVS-10 Prevalence of obesity in the Hong Kong Cardiovascular Risk Factor Prevalence Survey-2 (CRISPS2)

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**Introduction:** In 1995-6, 2881 randomly chosen Hong Kong men and women were studied in the Hong Kong Cardiovascular Risk Factor Prevalence Survey. In CRISPS2, those subjects are randomly recalled to assess the prevalence of cardiovascular risk factors. Here, we report the interim findings on obesity.

**Method:** 813 subjects (393 men, 420 women; age  $51 \pm 12$  yrs) were studied. The medical history was obtained and the subjects were examined with special attention to blood pressure and indices of obesity. Body mass index (BMI) was derived from the weight (kg) divided by height squared ( $m^2$ ). Each subject had an oral glucose tolerance test. Lipid measurements were performed on fasting blood samples.

**Results:** 4.6% of men and 4.5% of women were obese ( $BMI \geq 30$ ). 41% men and 30% women were overweight ( $BMI \geq 25$ ). Compared to six years ago, there were no significant changes in body weight and BMI, but the waist circumference increased from  $81.8 \pm 1.1$  to  $84.3 \pm 1.2$  cm ( $p < 0.001$ ). In men, BMI was related to triglycerides ( $r=0.37$ ,  $p < 0.001$ ), HDL-cholesterol ( $r=-0.42$ ,  $p < 0.001$ ), diastolic blood pressure ( $r=0.31$ ,  $p < 0.001$ ), fasting glucose ( $r=0.27$ ,  $p < 0.001$ ) and fibrinogen ( $r=0.11$ ,  $p=0.04$ ). In women, the BMI also correlated with triglycerides ( $r=0.35$ ,  $p < 0.001$ ), HDL-cholesterol ( $r=-0.38$ ,  $p < 0.001$ ), diastolic blood pressure ( $r=0.34$ ,  $p < 0.001$ ), fasting glucose ( $r=0.26$ ,  $p < 0.001$ ) and fibrinogen ( $r=0.16$ ,  $p=0.002$ ). 126 (16%) and 214 (26%) subjects had diabetes and hypertension respectively. In the overweight or obese, the prevalence of diabetes and hypertension is increased to 28% and 40% in men and 25% and 41% in women respectively.  $BMI \geq 25$  is associated with diabetes (OR 3.5 [2.3-5.1]) and hypertension (OR 3.0 [2.2-4.2]).

**Conclusions:** The prevalence of obesity in the general population is low compared to western countries, but overweight is common. Overweight is associated with cardiovascular risk factors, so appropriate weight control in the general population seems warranted.